

# PCT

## INTERNATIONAL SEARCH REPORT

(PCT Article 18 and Rules 43 and 44)

Applicant's or agent's file reference <b>02-1037-A</b>	<b>FOR FURTHER ACTION</b> see Form PCT/ISA/220 as well as, where applicable, item 5 below.	
International application No. <b>PCT/US2004/025899</b>	International filing date (day/month/year) <b>10/08/2004</b>	(Earliest) Priority Date (day/month/year) <b>11/08/2003</b>
Applicant  <b>ORAGENICS, INC.</b>		

This International Search Report has been prepared by this International Searching Authority and is transmitted to the applicant according to Article 18. A copy is being transmitted to the International Bureau.

This International Search Report consists of a total of 04 sheets.

☒ It is also accompanied by a copy of each prior art document cited in this report.

**1. Basis of the report**

a. With regard to the **language**, the international search was carried out on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.

☐ The international search was carried out on the basis of a translation of the international application furnished to this Authority (Rule 23.1(b)).

b. ☒ With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, see Box No. I.

2. ☐ **Certain claims were found unsearchable** (See Box II).

3. ☐ **Unity of invention is lacking** (see Box III).

4. With regard to the **title**,

☒ the text is approved as submitted by the applicant.

☐ the text has been established by this Authority to read as follows:

5. With regard to the **abstract**,

☒ the text is approved as submitted by the applicant.

☐ the text has been established, according to Rule 38.2(b), by this Authority as it appears in Box No. IV. The applicant may, within one month from the date of mailing of this international search report, submit comments to this Authority.

6. With regards to the **drawings**,

a. the figure of the **drawings** to be published with the abstract is Figure No. \_\_\_\_\_

☐ as suggested by the applicant.

☐ as selected by this Authority, because the applicant failed to suggest a figure.

☐ as selected by this Authority, because this figure better characterizes the invention.

b. ☒ none of the figures is to be published with the abstract.

# INTERNATIONAL SEARCH REPORT

International application No.

PCT/US2004/025899

## Box No. I Nucleotide and/or amino acid sequence(s) (Continuation of item 1.b of the first sheet)

1. With regard to any nucleotide and/or amino acid sequence disclosed in the international application and necessary to the claimed invention, the international search was carried out on the basis of:
  - a. type of material
    - ☒ a sequence listing
    - ☐ table(s) related to the sequence listing
  - b. format of material
    - ☒ in written format
    - ☒ in computer readable form
  - c. time of filing/furnishing
    - ☐ contained in the international application as filed
    - ☐ filed together with the international application in computer readable form
    - ☒ furnished subsequently to this Authority for the purpose of search
2. ☒ In addition, in the case that more than one version or copy of a sequence listing and/or table relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.
3. Additional comments:

## INTERNATIONAL SEARCH REPORT

International Application No

PCT/US2004/025899

## A. CLASSIFICATION OF SUBJECT MATTER

IPC 7 A23L1/30 A61K35/74 A61P1/02

According to International Patent Classification (IPC) or to both national classification and IPC

## B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 A61K

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, BIOSIS, PAJ, WPI Data

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	US 4 454 109 A (HILLMAN JEFFREY D) 12 June 1984 (1984-06-12) the whole document	1-23
Y	EP 0 058 575 A (FORSYTH DENTAL INFIRMARY) 25 August 1982 (1982-08-25) the whole document	1-23
	----- -/--	

☒ Further documents are listed in the continuation of box C.☒ Patent family members are listed in annex.

## \* Special categories of cited documents :

- \*A\* document defining the general state of the art which is not considered to be of particular relevance
- \*E\* earlier document but published on or after the international filing date
- \*L\* document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- \*O\* document referring to an oral disclosure, use, exhibition or other means
- \*P\* document published prior to the international filing date but later than the priority date claimed

- \*T\* later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
- \*X\* document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
- \*Y\* document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.
- \*&\* document member of the same patent family

Date of the actual completion of the international search

20 December 2004

Date of mailing of the international search report

28/12/2004

Name and mailing address of the ISA

European Patent Office, P.B. 5818 Patentlaan 2  
NL - 2280 HV Rijswijk  
Tel. (+31-70) 340-2040, Tx. 31 651 epo nl,  
Fax: (+31-70) 340-3016

Authorized officer

Greif, G

## INTERNATIONAL SEARCH REPORT

International Application No

PCT/US2004/025899

## C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	HILLMAN J D ET AL: "CLONING AND EXPRESSION OF THE GENE ENCODING THE FRUCTOSE-1,6-DIPHOSPHATE-DEPENDENT L-(+)-LACTATE DEHYDROGENASE OF STREPTOCOCCUS MUTANS" INFECTION AND IMMUNITY, AMERICAN SOCIETY FOR MICROBIOLOGY. WASHINGTON, US, vol. 58, no. 5, May 1990 (1990-05), pages 1290-1295, XP002907390 ISSN: 0019-9567 cited in the application the whole document	1-23
Y	US 5 607 672 A (HILLMAN JEFFREY D) 4 March 1997 (1997-03-04) the whole document	1-23
Y	HILLMAN J D: "LACTATE DEHYDROGENASE MUTANTS OF STREPTOCOCCUS MUTANS: ISOLATION AND PRELIMINARY CHARACTERIZATION" INFECTION AND IMMUNITY, AMERICAN SOCIETY FOR MICROBIOLOGY. WASHINGTON, US, vol. 21, no. 1, July 1978 (1978-07), pages 206-212, XP001018386 ISSN: 0019-9567 cited in the application the whole document	1-23
Y	US 5 932 469 A (HILLMAN JEFFREY D) 3 August 1999 (1999-08-03) the whole document	1-23
Y	HILLMAN J D ET AL: "THE RELATIONSHIPS BETWEEN STREPTOCOCCAL SPECIES AND PERIODONTOPATHIC BACTERIA IN HUMAN DENTAL PLAQUE" ARCHIVES OF ORAL BIOLOGY, vol. 30, no. 11-12, 1985, pages 791-796, XP009041422 ISSN: 0003-9969 cited in the application the whole document	1-23

# INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/US2004/025899

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
US 4454109	A	12-06-1984	CA 1195613 A1 EP 0058575 A1	22-10-1985 25-08-1982
EP 0058575	A	25-08-1982	CA 1195613 A1 EP 0058575 A1 US 4454109 A	22-10-1985 25-08-1982 12-06-1984
US 5607672	A	04-03-1997	AT 248216 T AU 702384 B2 AU 6105996 A BR 9609041 A CA 2223906 A1 CN 1192234 A DE 69629689 D1 DE 69629689 T2 DK 832186 T3 EP 0832186 A1 ES 2205038 T3 JP 11507228 T NZ 310289 A PT 832186 T RU 2224794 C2 WO 9640865 A1	15-09-2003 18-02-1999 30-12-1996 14-12-1999 19-12-1996 02-09-1998 02-10-2003 17-06-2004 01-12-2003 01-04-1998 01-05-2004 29-06-1999 28-02-2000 30-01-2004 27-02-2004 19-12-1996
US 5932469	A	03-08-1999	AU 748871 B2 AU 8064498 A CA 2295986 A1 EP 1019084 A1 JP 2002504825 T NZ 501658 A US 2002128186 A1 US 2002177690 A1 WO 9856411 A1 US 2003118590 A1 US 6391285 B1	13-06-2002 30-12-1998 17-12-1998 19-07-2000 12-02-2002 31-08-2001 12-09-2002 28-11-2002 17-12-1998 26-06-2003 21-05-2002